A. MARKS.

ENVELOP OPENER.

APPLICATION FILED SEPT. 10, 1912. RENEWED DEC. 2, 1914.

1,126,542.

Patented Jan. 26, 1915.

2 SHEETS—SHEET 1.

Fig. 1,

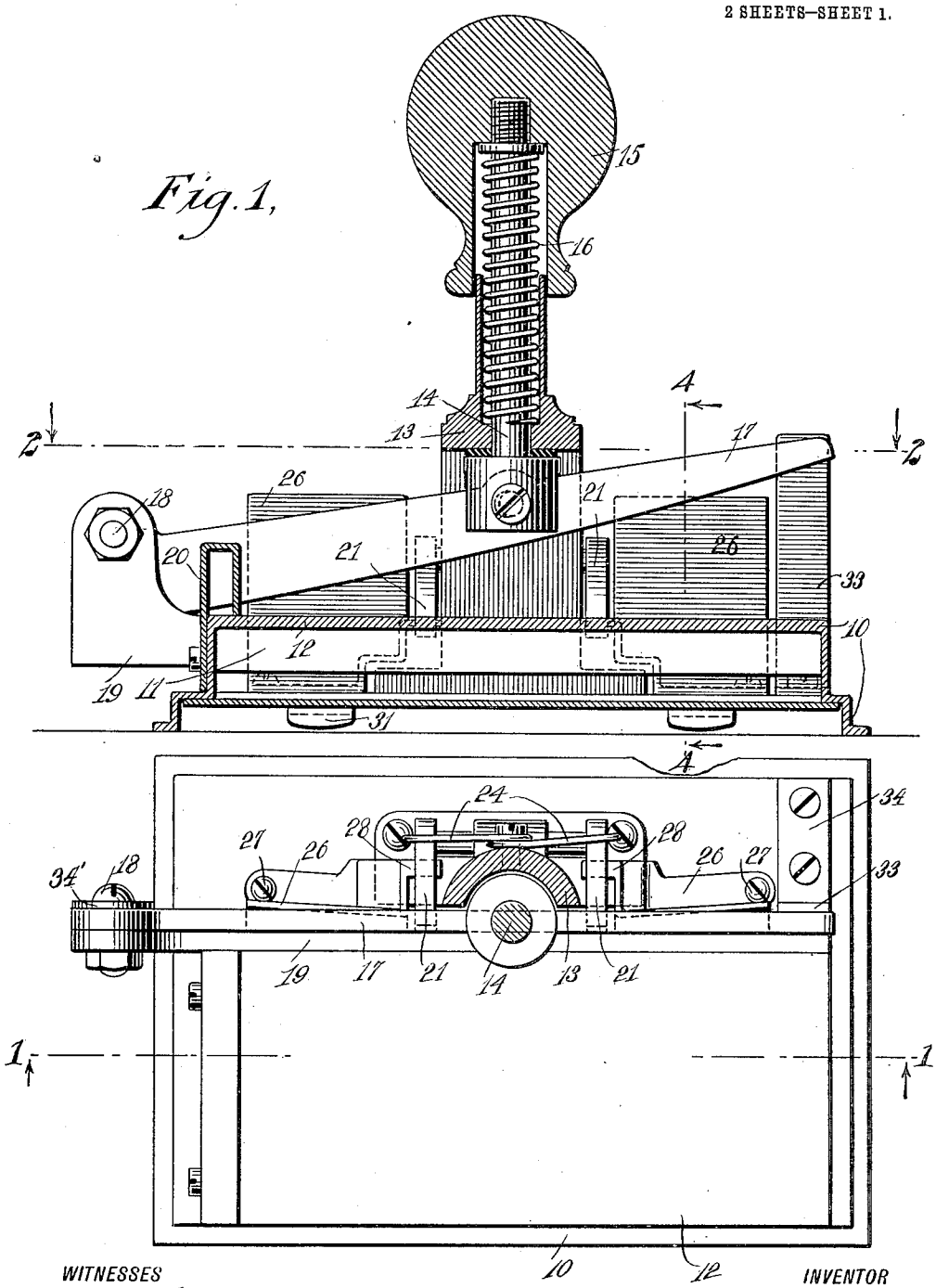


Fig. 2,

WITNESSES

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2 SHEETS—SHEET 2.

Fig. 3.

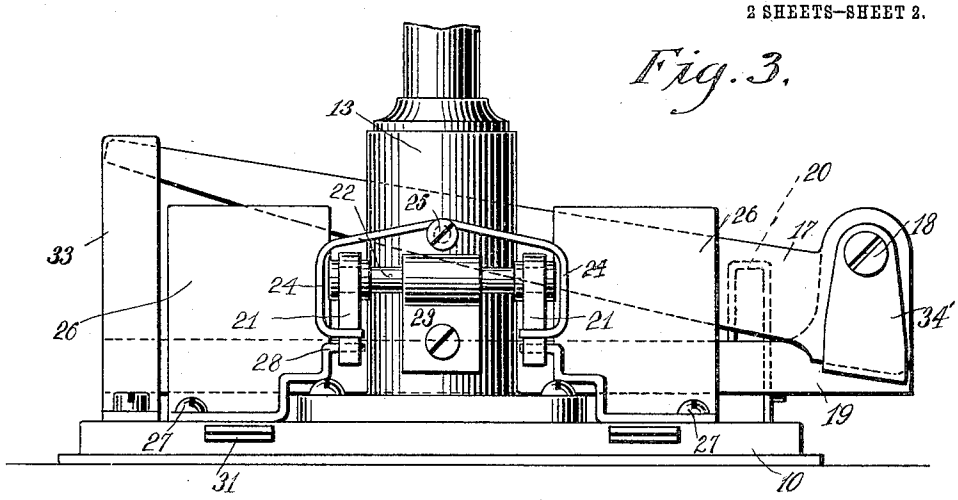


Fig. 4.

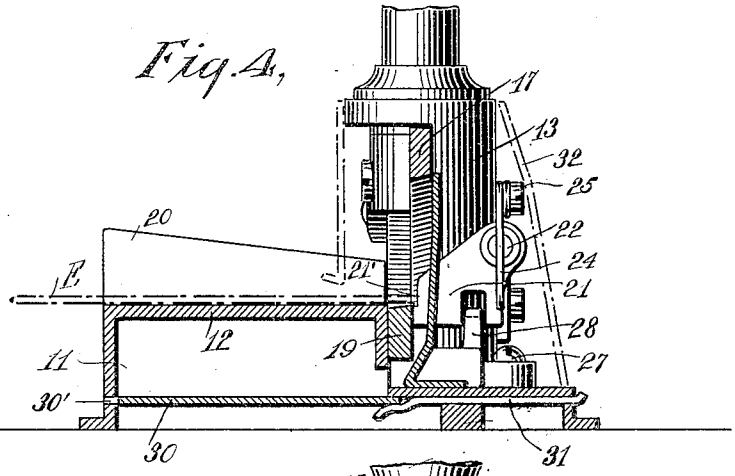
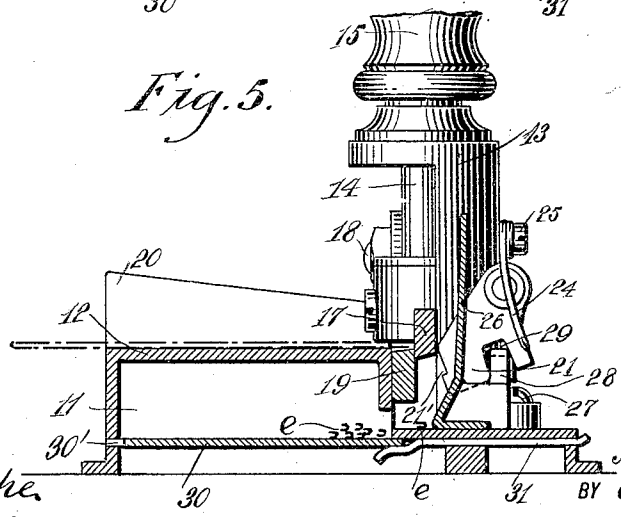


Fig. 5.



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UNITED STATES PATENT OFFICE.

ALBERT MARKS, OF NEW YORK, N. Y.

ENVELOP-OPENER.

1,126,542. Specification of Letters Patent. Patented Jan. 26, 1915.

Application filed September 10, 1912, Serial No. 719,507. Renewed December 2, 1914. Serial No. 875,183.

To all whom it may concern:

Be it known that I, ALBERT MARKS, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Envelop-Opener, of which the following is a full, clear, and exact description.

This invention relates to paper cutting machines, and has particular reference to machines of this nature adapted particularly for opening or cutting envelops by hand operation.

Among the objects of the invention is to improve this class of machines so as to provide one which will be strong and reliable in use and which will insure a perfect cut of the envelop at each stroke; that is to say, a cut which will be effective to open the envelop but which will not be so long as to endanger the contents of the envelop.

The foregoing and other objects of the invention will hereinafter be more fully described and claimed and illustrated in the drawings accompanying this specification in which like characters of reference indicate corresponding parts in all the views, and in which—

Figure 1 is a vertical longitudinal section on the line 1—1 of Fig. 2, the plane of the section being extended over to include the handle; Fig. 2 is a transverse section on the line 2—2 of Fig. 1, the lower portion of the machine being in plan; Fig. 3 is a rear elevation; Fig. 4 is a transverse vertical section on the line 4—4 of Fig. 1; and Fig. 5 is a similar view with the movable parts in the opposite position.

Referring particularly to the drawings, I show as a preferred embodiment of the invention a base 10 of any suitable construction and of a size large enough for any particular work to be performed by it. The said base is adapted to rest snugly and strongly upon a desk or the like and includes a box or chamber 11 adapted to receive the cuttings and whose upper wall constitutes a platform 12 for the envelop to be cut.

Extending upwardly from the base and adjacent the platform 12 is a pedestal 13 which carries or guides the vertically reciprocating plunger 14. A handle 15 is connected to the upper end of the plunger, and between the handle and the lower portion of the pedestal is arranged a coil spring 16 which serves the purpose of keeping the handle and plunger elevated in a manner common to such machines. The lower end of the plunger has loose pivotal connection with the movable blade 17 of the cutter proper. Said blade is pivoted at one end at 18 upon one end of the stationary or fixed blade 19 of the cutter. Said blades 17 and 19 operate substantially as a pair of shears when the movable blade 17 is thrust downwardly by a blow upon the handle and plunger.

A guide 20 is fixed on one side of the platform 12, preferably on the side adjacent the pivot 18 of the cutter, the function of which guide is to position the envelop or paper to be cut substantially at right angles to the length of the cut. The length of the cut or the distance the envelop will project through between the blades 17 and 19 may be determined in any convenient manner, but for this purpose I provide a pair of movable gages 21 pivoted on a horizontal pivot 22 which extends across at the rear of the pedestal. Said pivot 22 is shown secured in place by means of a bracket 23 and may be journaled in the bracket or fixed therein, depending upon the manner of connecting the gages 21 to the pivot 22; that is to say, the pivot 22 may be fixed in its bracket and the gages independently journaled thereupon, or one of the gages may be secured to the pivot and the other gage loosely mounted thereupon. Preferably, however, the gages are so mounted that they may swing independently of each other around the axis of the pivot 22. A spring 24, secured as at 25 to the pedestal, operates upon each of the gages 21 to hold it normally pressed forward against the fixed blade 19, as shown in Fig. 4. Each gage has an offset at 21′ which determines the length of the cut. In other words, the envelop shown in dotted lines at E will lie upon the platform 12 and project beyond the fixed blade 19 as far as permitted by the offset portions of the gages. The reason for providing two gages is that it is unusual for envelops to be precisely rectangular and therefore the guide 20 and a single gage 21 could not be depended upon to produce a reliable cut or a cut of uniform width; hence, two gages 21 determine the uniform length of the cut while the guide 20 may or may not determine the exact position of

the side of the envelop. In other words, the envelop will be brought into contact with both of the gages and at the same time will come into contact with the guide 20 along its full length if the envelop is rectangular, or at only one point if it is not rectangular.

As indicated in Figs. 4 and 5 particularly, the gages 21 extend into the path of the movable blade 17 and hence it is necessary for them to be pushed rearwardly or around their pivots when the cut is being made. As shown in Fig. 5, the blade 17 on making its downward stroke will strike against the gages in succession, first striking against the gage between the pedestal and the pivot 18 because of the fact of the pivoted end of the blade being lower than the outer end when in normal position, and then subsequently the blade will strike the outermost gage. As seen in Fig. 1, the envelop to be cut will be placed upon the platform with the edge to be cut beneath the blade 17. As soon as the downward stroke is begun, the heel of the blade 17 will engage the envelop, beginning the cut, and then soon thereafter the intermediate portion of the blade will remove the first gage while the other gage remains in position, maintaining the envelop at the proper place. The continued stroke will then push the second gage out of place. The cut being completed, the clipping *e*, after being sheared off, will drop into the space below the blade 17 and will be prevented from becoming entangled with any of the movable parts of the device by virtue of a pair of guards 26 which are pivoted at 27 upon the base 10 and each of which has a finger 28 coöperating in a notch 29 of the adjacent gage 21, whereby when the gages are swung in either direction on their pivots 22 the guards 26 will be moved in a corresponding direction on their pivots 27. On the return of the parts to their normal positions, the guards 26 will force the clipping *e* toward or into the chamber 11. When the chamber becomes filled with such clippings it may be emptied by opening a trap door 30 in its bottom, said door having extension 30′ coöperating with the front side of the base and having its rear edge held up by finger pieces 31 which coöperate with the fixed parts of the base. As shown at 32 in dotted lines in Fig. 4, a casing may be provided to inclose the principal parts of the machine to protect it from dust or other damaging influences.

At 33 I show a finger which is substantially vertical and is rigidly conected at 34 to the base. Said finger bears against the outer end of the movable blade 17, holding it in shearing contact with the fixed blade. I also provide a spring 34′ at the pivot 18 of the cutter, the function of which is to hold the heel of the movable blade in shearing contact with the fixed blade.

The several parts of the device may be made of any suitable materials, and the details of construction may be variously made and designed without departing from the spirit of the invention.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. The herein described envelop opener, comprising, in combination, a base, a pedestal extending upwardly from the base, cutting means between the base and the pedestal, positioning means for the paper to be cut including a gage movable in a vertical plane and resiliently pivoted upon the pedestal, and guard means including a member pivoted on a vertical pivot upon the base and movable toward and from said cutting means, said guard member being operatively connected to the gage whereby the guard member is positively moved on its pivot by means of said gage.

2. In an envelop opener, the combination of a base including a chamber to receive the cuttings, cutting means including a member fixed to the base and another member movable with respect to the fixed member, a pair of gages coöperating with the fixed cutting member and movable independently of each other in vertical parallel planes rearwardly from said fixed member when engaged by the movable cutting member, means to restore the gages in normal engagement with said fixed member when released by the movable cutting member, and a pair of guards pivoted on vertical pivots to the base and severally operated by said gages toward or from the fixed cutting member and serving to direct the cuttings into said chamber when the gages approach their normal contact with the fixed cutting member.

3. In a machine of the class set forth, the combination of a base, a pedestal projecting upwardly therefrom, fixed and movable blades associated with the base, and positioning means for the envelop to determine the distance the envelop projects between the blades, said positioning means comprising a pair of gages pivoted upon the pedestal and movable independently of each other in parallel vertical planes.

4. In an envelop opener, the combination of a base including a chamber, cutting means associated with the base, positioning means coöperating with the cutting means to determine the length of the cut, and guard means movable from normal position simultaneously with the operation of the cutting means and adapted to receive the cuttings and project them automatically into said chamber upon the return of the guard means to normal position.

5. In an envelop opener, the combination of a base, cutting means associated with the

base, a pair of gages to determine the length of the cut, means to hold the gages in normal operative position, and guard means operative in conjunction with said gages to receive the cuttings and keep them out of contact with the gages.

6. In an envelop opener, the combination of a base, cutting means, a pedestal extending upwardly from the base, a pair of gages mounted upon said pedestal and coöperating with the base to determine the position of the envelop, said gages being withdrawn from normal position by operation of one part of the cutter, and a pair of guards operated by the gages for disposing of the cuttings, substantially as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ALBERT MARKS.

Witnesses:
GEO. L. BEELER,
PHILIP D. ROLLHAUS.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."